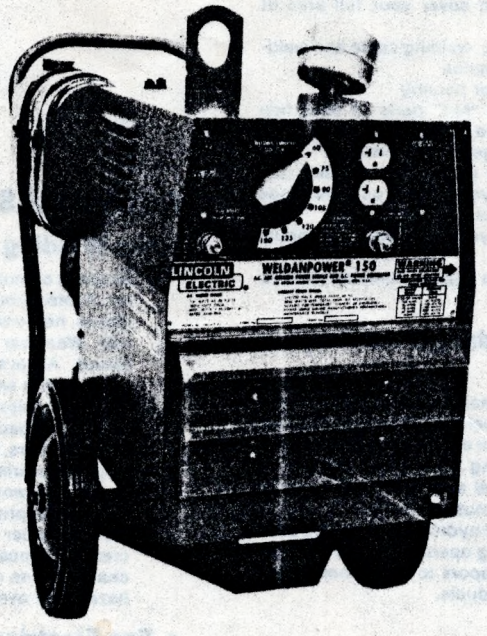
LINCOLN WELDERS®

IM-287

OPERATING MANUAL

Weldanpower® 150

Combination 150 Amp AC Arc Welding Power Source and 4500 Watt AC Power Generator



DAMAGE CLAIMS

When this equipment is shipped, title passes to the purchaser upon receipt by the carrier. Consequently, claims for material damaged in shipment must be made by the purchaser against the transportation company at the time the shipment is received.

SAFETY DEPENDS ON YOU

Lincoln arc welding equipment is designed and built with safety in mind. However, your overall safety can be increased by proper installation ... and thoughtful operation on your part. DO NOT INSTALL, OPERATE OR REPAIR THIS EQUIPMENT WITHOUT READING THIS OPERATING MANUAL AND THE ARC WELDING SAFETY PRECAUTIONS ON THE INSIDE FRONT COVER. And, most importantly, think before you act and be careful.

LINCOLN® ELECTRIC

THE LINCOLN ELECTRIC COMPANY

World's Largest Manufacturer of Arc Welding Products • Manufacturer of Industrial Motors

Cleveland, Ohio 44117 U.S.A.

ARC WELDING SAFETY PRECAUTIONS

PROTECT YOURSELF AND OTHERS FROM POSSIBLE SERIOUS INJURY OR DEATH. READ AND UNDERSTAND BOTH THE SPECIFIC INFORMATION GIVEN IN THE OPERATING MANUAL FOR THE WELDER AND/OR OTHER EQUIPMENT TO BE USED AS WELL AS THE FOLLOWING GENERAL INFORMATION.

1. **HAVE ALL INSTALLATION, OPERATION, MAINTENANCE AND REPAIR WORK performed only by qualified people**

2. **ELECTRIC SHOCK can kill.**

Protect yourself from possible dangerous electrical shock:

a. The electrode and work (or ground) circuits are electrically "hot" when the welder is on. Never permit contact between "hot" parts of the circuits and bare skin or wet clothing. Wear dry, hole-free gloves to insulate hands.
b. Always insulate yourself from the work and ground by using dry insulation. When welding in damp locations, on metal floors, gratings or scaffolds, and when in positions (such as sitting or lying), make certain the insulation is large enough to cover your full area of physical contact with work and ground.
c. Maintain the electrode holder, work clamp, welding cable and welding machine in good, safe operating condition.
d. Never dip the electrode holder in water for cooling.
e. Never simultaneously touch electrically "hot" parts of electrode holders connected to two welders because voltage between the two can be the total of the open circuit voltage of both welders.
f. If using the welder as a power source for mechanized welding, the above precautions also apply for the automatic electrode, electrode reel, welding head, nozzle or semiautomatic welding gun.
g. When working above floor level, protect yourself from a fall should you get a shock.
h. Ground the work or metal to be welded to a good electrical ground.
i. Also see Item 7.

3. **FUMES AND GASES can be dangerous to your health.**

a. Welding may produce fumes and gases hazardous to health. Avoid breathing these fumes and gases. When welding, keep your head out of the fume. Use enough ventilation and/or exhaust at the arc to keep fumes and gases away from the breathing zone. When welding on galvanized, lead or cadmium plated steel and other metals which produce toxic fumes, even greater care must be taken.
b. Do not weld in locations near chlorinated hydrocarbon vapors coming from degreasing, cleaning or spraying operations. The heat and rays of the arc can react with solvent vapors to form phosgene, a highly toxic gas, and other irritating products.
c. Also see Item 8b.

4. **ARC RAYS can injure eyes and burn skin.**

a. Use a shield with the proper filter and cover plates to protect your eyes from sparks and the rays of the arc when welding or observing open arc welding. Filter lens should conform to ANSI Z87.1 standards.
b. Use suitable clothing made from durable, flame-resistant material to protect your skin and that of your helpers from the arc rays.
c. Protect other nearby personnel with suitable non-flammable screening and/or warn them not to watch the arc nor expose themselves to the arc rays or to hot spatter or metal.

5. **FIRE OR EXPLOSION can cause death or property damage.**

a. Remove fire hazards well away from the area. If this is not possible cover them to prevent the welding sparks from starting a fire. Remember that welding sparks and hot materials from welding can easily go through small cracks and openings to adjacent areas. Have fire extinguisher readily available.
b. Where compressed gases are to be used at the job site, special precautions should be used to prevent hazardous situations. Refer to "Safety in Welding and Cutting" (ANSI Standard Z49.1) and the operating information for the equipment being used.
c. When not welding, make certain no part of the electrode circuit is touching the work or ground. Accidental contact can cause overheating and create a fire hazard.
d. Do not heat, cut or weld tanks, drums or containers until the proper steps have been taken to insure that such procedures will not cause flammable or toxic vapors from substances inside. They can cause an explosion even though they have been "cleaned." For information purchase "Recommended Safe Practices for the Preparation for Welding and Cutting of Containers and Piping That Have Held Hazardous Substances", AWS F4.1-80 from the American Welding Society, Miami, Florida 33125.
e. Vent hollow castings or containers before heating, cutting or welding. They may explode.
f. Also see Items 6c and 8c.

Additional Safety Precautions

6. **For Welding in General.**

a. Droplets of molten slag and metal are thrown or fall from the welding arc. Protect yourself with oil free protective garments such as leather gloves, heavy shirt, cuffless trousers, high shoes and a cap over your hair. Wear ear plugs when welding out of position or in confined places. Always wear safety glasses when in a welding area. Use glasses with side shields when near slag chipping operations.
b. Keep all equipment safety guards, covers and devices in position and in good repair. Keep hands, hair, clothing and tools away from V-belts, gears, fans and all other moving parts when starting, operating or repairing equipment.
c. Be sure the work cable is connected to the work as close to the welding area as practical. Work cables connected to the building framework or other locations some distance from the welding area increase the possibility of the welding current passing through lifting chains, crane cables or other alternate circuits. This can create fire hazards or overheat lifting chains or cables until they fail.

7. **For Electrically Powered Equipment.**

a. Disconnect and lock out all electric power sources before doing any work on the equipment.
b. Make the electrical installation in accordance with the National Electrical Code and all local codes.
c. Properly ground the equipment in accordance with the National Electrical Code and the manufacturer's recommendations.

8. **For Engine Powered Equipment.**

a. Turn the engine off before troubleshooting and maintenance work unless the maintenance work requires it to be running.
b. Operate internal combustion engines in open, well-ventilated areas or vent the engine exhaust fumes outdoors.
c. Do not add the fuel near an open flame or when the engine is running. Stop the engine and, if possible, allow it to cool to prevent spilled fuel from igniting on contact with hot engine parts or electrical sparks. Do not spill fuel when filling tank. If fuel is spilled, wipe it up and do not start engine until fumes have been eliminated.
d. To prevent accidentally starting gasoline engines while turning the engine or welding generator during maintenance work, disconnect the spark plug wires, distributor cap or magneto wire as appropriate.
e. To avoid scalding, do not remove the radiator pressure cap when the engine is hot.

For more detailed information it is strongly recommended that you purchase a copy of "Safety in Welding & Cutting" — ANSI Standard Z49.1" from the American Welding Society, P.O. Box 351040 Miami, Florida 33135.

The National Electrical Code does not require this machine to be grounded under normal operating circumstances.

Some state, local or other codes or unusual operating circumstances may require the machine frame to be grounded. It is recommended that you determine the extent to which such requirements apply to your particular situation and follow them explicitly. A machine grounding stud marked with the symbol ⏚ is provided below the welder *control panel.*

In general, if the machine is to be grounded it should be connected with #10 or larger copper wire to a solid earth ground such as a metal water pipe going into the ground for at least ten feet and having no insulated joints, or to the metal framework of a building which has been effectively grounded. The National Electrical Code lists a number of alternate means of grounding electrical equipment.

PRODUCT DESCRIPTION

The Weldanpower 150 is a gasoline engine driven combination welder/generator power source. It was designed to provide a maximum output of 150 amperes at 25 volts of alternating welding current or 4.5 KW, 115/230 volt, 60 hertz auxiliary power. It is for use with all common AC stick welding electrodes and all AC, 60 hertz tools within the rating of the unit.

OPERATION

WARNING: Read the engine manufacturer's manual supplied with your welder for detailed engine starting, operating and maintenance instructions, parts lists and safety precautions.

EXHAUST SPARK ARRESTER

Some federal, state or local laws may require that gasoline engines be equipped with exhaust spark arresters when they are operated in certain locations where unarrested sparks may present a fire hazard. The standard mufflers included with these welders do not qualify as spark arresters. When required by local regulations, suitable spark arresters must be installed and properly maintained.

CAUTION: An incorrect arrester may lead to damage of the engine or its performance. Contact the engine manufacturer for special recommendations.

STARTING THE ENGINE

WARNING: Operate internal combustion engines in open, well ventilated areas or vent the engine exhaust fumes outdoors.

Your engine may be equipped with either the standard manual rope pull starter or the optional factory installed electric starter.

The manual start unit is equipped with an engine throttle rod and ignition switch located on the control panel.

This electric start unit is equipped with a wet charged battery, an ignition switch, starter pushbutton, engine throttle rod and ammeter (for battery charging circuit) located on the control panel. **WARNING: Use care as the electrolyte is a strong acid. Avoid contact with eyes and skin.**

Remove all loads connected to the AC power receptacles before starting.

To start either unit, place the choke lever on the side of the carburetor in the down position (closing the choke). Push the ignition switch in. If rope start, crank the engine with a firm steady pull on the rope. If electric start, depress the starter button. Immediately after the engine has started, slowly return the choke lever in the up position (choke open) and repeat the steps outlined above.

Allow the engine to warm up gradually by letting it run at low idle for a few minutes. For longest life and lowest fuel consumption run at low idle whenever power is not being drawn.

STOPPING THE ENGINE

Remove the load and let the engine run at low idle speed for a few minutes before stopping. Stop the engine with the Ignition switch. The Kohler engine can also be stopped by pressing the button on the side of the breaker point box and holding until the engine comes to a complete stop.

BATTERY CHARGING

The battery is maintained at its proper state of charge by the battery charger P.C. board which automatically regulates the charging current from 5 amps when the battery is low (after starting the engine) to less than 0.5 amps when the battery is fully charged.

If the welder is operated with the battery disconnected, the battery cable terminals should be taped separately with insulating tape to avoid damage to the charging circuit.

When replacing, jumping, or otherwise connecting the battery to the battery cables, the proper polarity *must* be observed. Failure to observe the proper polarity could result in damage to the charging circuit. The positive battery cable is designated with a "P" stenciled on the terminal and the negative battery cable has an "N" stenciled on the terminal.

The ammeter is the best indicator of the condition of the battery and charging circuit. If the ammeter shows a charging current of approximately six amps with the engine stopped, then the battery cables are reversed and should be connected correctly. If the ammeter shows a discharging ( ) current of approximately six amps with the engine stopped, the control SCR is shorted and the P.C. board must be replaced.

If the battery is in a poor state of charge, the charging current will read approximately five amps for as long as it takes to bring the battery up to full charge.

OPERATION AS A WELDER

With the engine off connect the "work" cable to the welder output stud marked "work". Connect the "electrode" cable to the welder output stud marked "electrode". Start the engine and slip the throttle control into the notch so that the engine runs at full speed. Set the selector switch for the desired welding current and the machine is ready for welding. The selector switch is a seven position switch with welding positions at 60, 75, 90, 105, 120, 135 and 150 amps. Each tap is rated at 100% duty cycle. **CAUTION:** *Never* change the selector switch setting while under load. This will cause severe damage to the switch.

The following electrode guide will show the recommended electrodes and settings for this machine.

TABLE 1 — ELECTRODE GUIDE

	60 Hz Machines				50 Hz Machines			
Electrode Type	**5/64**	**3/32**	**1/8**	**5/32**	**5/64**	**3/32**	**1/8**	**5/32**
Fleetweld 180	—	60	90	135	—	60	90	135
Fleetweld 35	—	—	75	120	—	—	—	120
Fleetweld 37 & 57	75	90	135	—	75	90	135	—
Stainweld 308-16	—	75	90	—	—	75	90	—
Steel Thickness	18 to 12 ga.		1/8 and over		18 to 12 ga.		1/8 and over	

OPERATION AS AN AC POWER SOURCE

Suitable for temporary, standby or emergency power using engine manufacturer's recommended maintenance schedule. Not recommended for long term primary power.

Start the engine and slip the throttle control into the notch so that the engine runs at full speed. Voltage is now at the receptacle for the auxiliary power. Do *not* apply a load to the machine until the engine is up to full speed. Failure to do this may keep the Weldanpower from building up its voltage. Bringing the engine up to full speed without the load will again provide output voltage if this should happen.

When using the 115 volt duplex receptacle, each receptacle can supply 20 amps load for a total maximum load of 40 amps. Drawing the full 20 amps requires a male plug specifically rated at 20 amps. (The standard plug furnished with most power tools is rated at 15 amps.)

The 115 volt single receptacle has a capacity of 40 amps and permits drawing the full 4500 watts from one plug.

TABLE 2

Welding Output	Permissible Auxiliary Power Loads	
	Amps — 115V Receptacles	Amps — 230V Receptacles
120-150 amps	0	0
105 amps	1.5	.75
90 amps	12	6
75 amps	17	8.5
60 amps	22	11
None	40	20

When using the 230 volt duplex receptacle, each receptacle has a maximum rating of 20 amps. The total current that can be drawn from both receptacles at one time is 20 amps.

Most 1.5 hp motors can be started if there is no load on the motor or other load connected to the Weldanpower since the full load current rating of a 115 volt, 1.5 hp motor is approximately 20 amperes (10 amps for 230 volt motors.)

The above auxiliary power ratings are with no welding load. Simultaneous welding and power loads are permitted by following Table 2. The permissible currents shown assume that current is being drawing from either the 115 volt or 230 volt supply, not both at the same time.

Inherent short circuit protection of the auxiliary power circuit is provided. If the power winding is short circuited the output current and voltage falls to zero. When the short is removed the power voltage returns to normal.

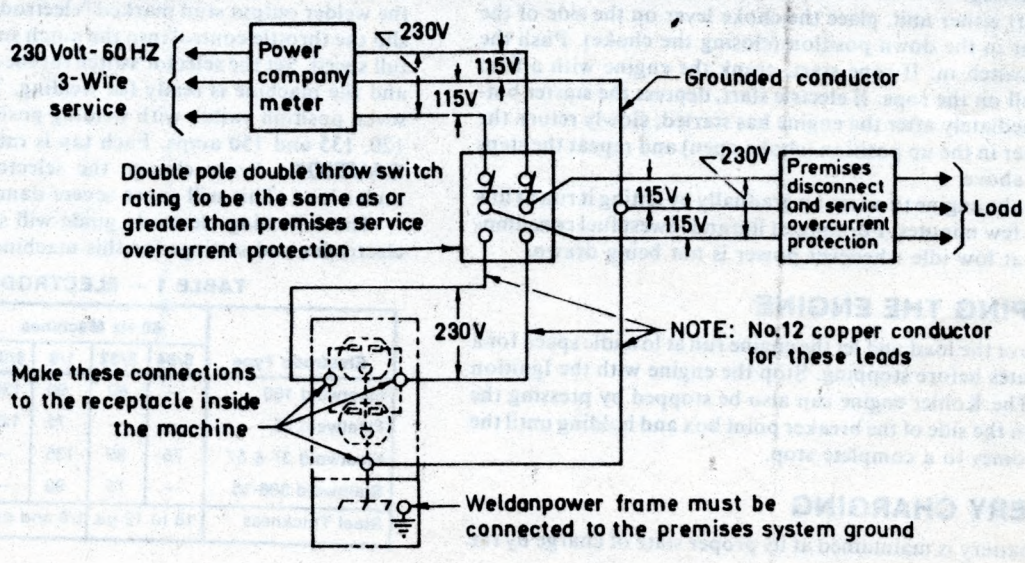
The auxiliary power receptacle should only be used with three wire grounded type plugs or approved double insulated tools with two wire plugs.

STANDBY POWER CONNECTIONS

The Weldanpower 150 can be permanently installed as a standby power unit for a 230 volt-3 wire, 20 ampere service. Connections must be made by a licensed electrician who can determine how the 115/230 volt Weldanpower 150 can be adapted to the particular installation and comply with all applicable electrical codes. The following information can be used as a guide by the electrician for most applications (refer also to the connection diagram below).

1. Install a double pole, double throw switch between the power company meter and the premises disconnect. Switch rating must be the same as or greater than the customer's premises disconnect and service overcurrent protection.
2. With the engine off, remove the Weldanpower 150 cover and make permanent connections from the Weldanpower 230 volt receptacle terminals to the switch installed in step 1. Replace the Weldanpower cover after making the connections. An access hole should be made in the cover to bring out the conductors to the switch. Use caution to protect the leads from any sharp corners.
3. Properly ground the Weldanpower 150 frame to the premises system ground.
4. Take necessary steps to assure load is limited to the capacity of the Weldanpower 150. Maximum rated load for the 230 volt auxiliary is 20 amperes. Loading above 20 amperes will reduce output voltage which may damage appliances or other motor-driven equipment.

CONNECTION OF W/P-150 TO PREMISES SYSTEM



MAINTENANCE AND TROUBLE SHOOTING

WARNING: Have qualified personnel do the maintenance and trouble shooting work. Turn the engine off before removing any covers or working inside the welder.

1. Blow out the welder and controls with low pressure air periodically. In particularly dirty locations this may be required once each week.
2. Governor and carburetor joints and the throttle shaft must be kept clean and lubricated.
3. Refer to the engine manufacturer's manual for engine maintenance and trouble shooting instructions.

SLIP RINGS AND BRUSHES

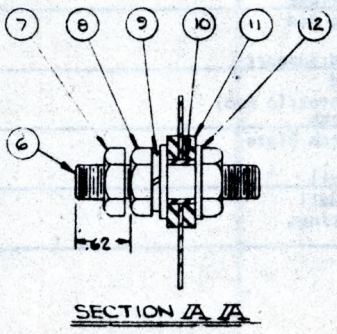
The rotor slip rings and brushes require practically no attention. They should be inspected when a general overhaul is necessary. To fit replacement brushes stop the engine and install the new brushes. Then slide one end of a 24" long piece of sandpaper between slip ring and brushes, with coarse side against brush. Putting slight finger pressure on top of the bursh, pull the sandpaper around the circumference of the slip rings in the direction of rotation only until brushes are seated. Touch up slip rings by stoning with a 220-230 grit commutator stone until 100% seated. Form brush pigtails so they will not hang up on brush holder.

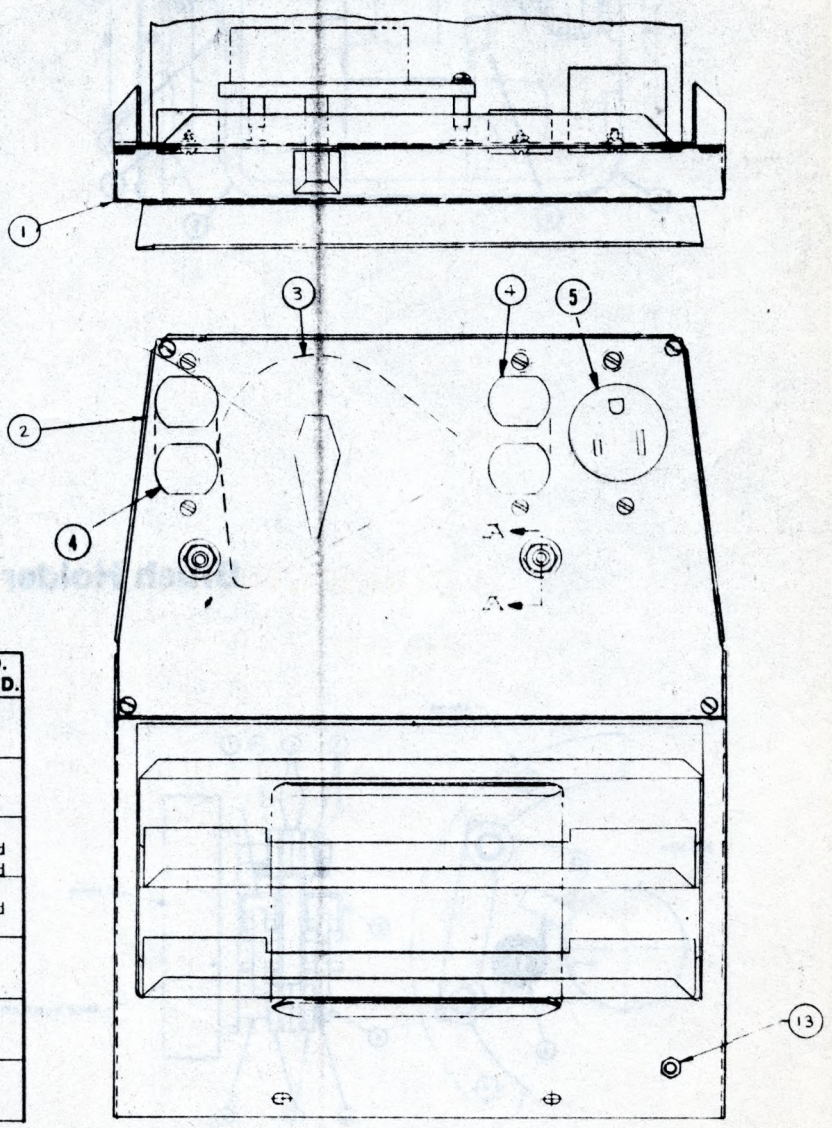
WARNING: Uncovered rotating equipment can be dangerous. Use care so hands, hair, clothing or tools do not catch in the rotating parts. Protect yourself from particles that may be thrown out by the rotating rotor when stoning the slip rings.

ROTOR

In the event of a major engine overhaul, it will be necessary to remove the rotor. This is accomplished by loosening the rotor thru bolt and backing it out a few turns. Then give the thru bolt a blow with a hammer. The rotor assembly should break loose from the engine shaft.

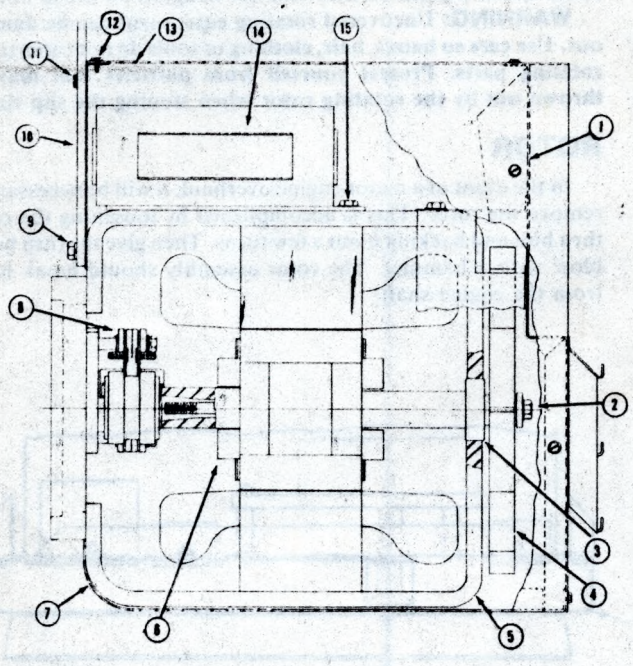
Case Front Assembly — W/P-150





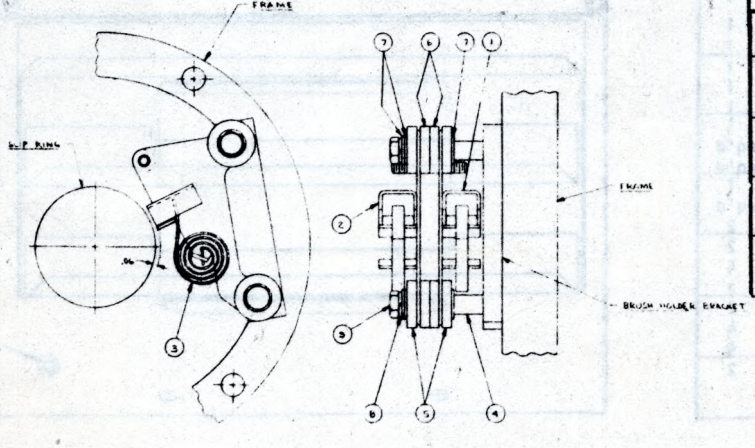
ITEM	PART NAME AND DESCRIPTION	NO. REQ'D.
1	Case Front Welded Assembly	1
2	Nameplate	1
3	Selector Switch	1
	Selector Switch Handle	1
4	Duplex Receptacle (115V)	1
4	Duplex Receptacle (230V)	1
4P	Auxiliary Power Plug (For 115V Duplex)	As Req'd
4P	Auxiliary Power Plug (For 230V Duplex)	As Req'd
5	Single Receptacle (115V, 40 Amp)	1
5P	Auxiliary Power Plug (For 115V Single)	As Req'd
6	Output Stud	2
7	Hex Nut (Steel	2
8	Hex Nut (Brass)	4
9	Lockwasher	2
10	Insulating Tube	2
11	Insulating Washer	4
12	Plain Washer	4
13	Hex Nut	2

General Reference — W/P-150

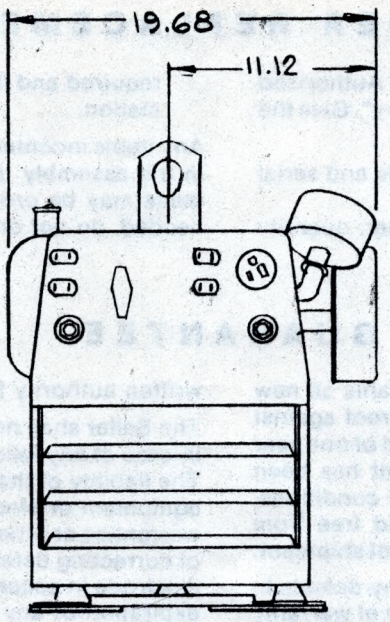


Parts List P-122-C		
ITEM	PART NAME AND DESCRIPTION	NO. REQ'D.
1	Case Front Panel Assembly	1
2	Hex Head Bolt	1
	Lockwasher	1
	Plainwasher	1
3	Bearing	1
4	Blower	1
	Blower Key	1
5	Frame Assembly	1
6	Rotor Assembly	1
7	Case Back & Bottom (Below Code 7750)	1
7	Case Back & Bottom (Above Code 7750)	1
8	Brushholder Assembly	1
	Brush	2
9	Hex Head Screw	2
	Lockwasher	2
10	Lift Bale	1
11	Self Tapping Screw	1
12	Self Tapping Screw	16
13	Case Wraparound (Below Code 7750)	1
13	Case Wraparound (Above Code 7750)	1
14	Reactor Coil Assembly	1
15	Thread Cutting Screw	2
	THE FOLLOWING PARTS ARE NOT ILLUSTRATED:	
	Flashing Diode Assembly	1
	Insulation	1
	Capacitors	4
	Insulation	1
	Full Wave Bridge	1
	Insulating Pad	1
	Insulator	1
	Throttle Rod Support	1
	Throttle Rod	1
	Coupling (Throttle Rod)	1
	Magneto Switch	1
	Magneto Switch Plate	1
	Muffler	1
	Base Side Rail	2
	Base Cross Rail	1
	Rubber Mountings	3
	Welder Feet	4

Brush Holder Assembly



Parts List P-122-E		
ITEM	PART NAME AND DESCRIPTION	NO. REQ'D.
1	Clockwise Brushholder	1
2	Counter Clockwise Brushholder	1
3	Brushholder Spring	2
4	Spacer	2
5	Insulator	4
6	Insulator	4
7	Plainwasher	6
8	Lockwasher	2
9	Hex Head Screw	2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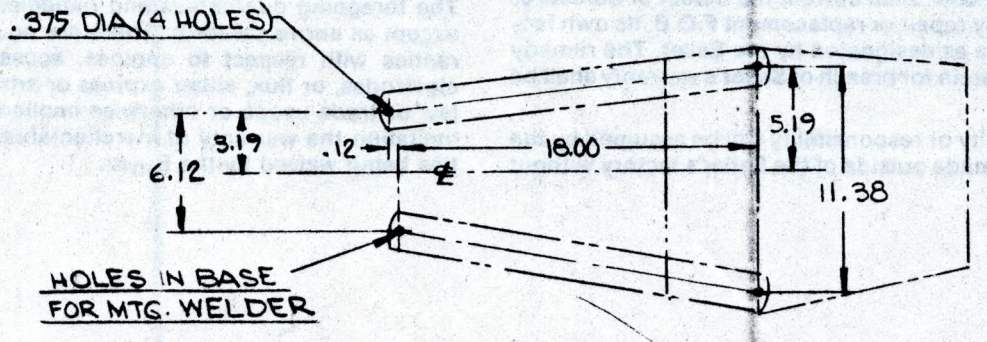
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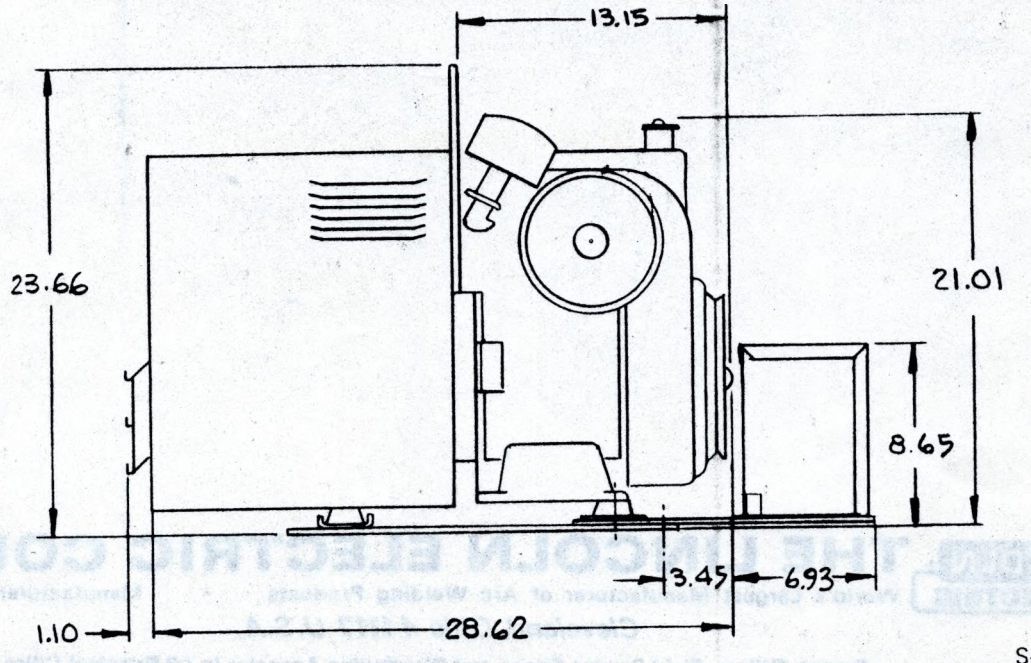
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HOW TO ORDER REPLACEMENT PARTS

Order parts only from Lincoln offices or from the Authorized Field Service Shops listed in the "Service Directory". Give the following information:

(a) From the nameplate — machine model, code and serial numbers.
(b) From this manual — part name, item number, quantity required and the number of the list used to get this information.

Any items indented in the "Parts Name" column are included in the assembly under which they are listed. The indented items may be ordered separately. If the entire assembly is needed, do ***not*** order the indented parts.

GUARANTEE

The Lincoln Electric Company, the Seller, warrants all new equipment except engines and accessories thereof against defects in workmanship and material for a period of one year from date of shipment, provided the equipment has been properly cared for, and operated under normal conditions. Engines and engine accessories are warranted free from defects for a period of ninety days from the date of shipment.

If the Buyer gives the Seller written notice of any defects in equipment or electrode or flux within any period of warranty and the Seller's inspection confirms the existence of such defects, then the Seller shall correct the defect or defects at its option, either by repair or replacement F.O.B. its own factory or other place as designated by the Seller. The remedy provided Buyer herein for breach of Seller's warranty shall be exclusive.

No expense, liability or responsibility will be assumed by the Seller for repairs made outside of the Seller's factory without written authority from the Seller.

The Seller shall not be liable for any consequential damages in case of any failure to meet the conditions of any warranty. The liability of the Seller arising out of the supplying of said equipment or electrode or its use by the Buyer, whether on warranties or otherwise, shall not in any case exceed the cost of correcting defects in the equipment or replacing defective electrode in accordance with the above guarantee. Upon the expiration of any period of warranty, all such liability shall terminate.

The foregoing guarantees and remedies are exclusive and except as above set forth. There are no guarantees or warranties with respect to engines, accessories, equipment, electrodes, or flux, either express or arising by operation of law or trade usage or otherwise implied, including without limitation the warranty of merchantability, all such warranties being waived by the Buyer.

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Cleveland, Ohio 44117 U.S.A.

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Export Representatives
ARMCO INTERNATIONAL — DIV. OF ARMCO STEEL CORP., Middletown, Ohio, U.S.A.

Printed July '82 12.5M

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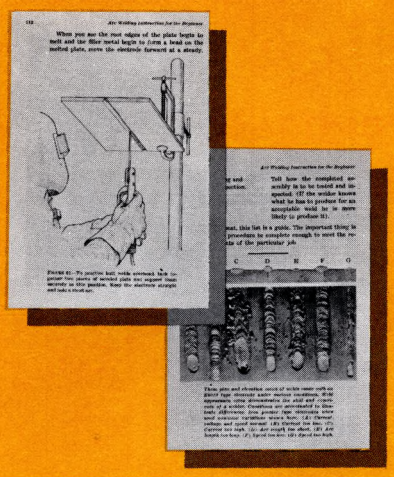
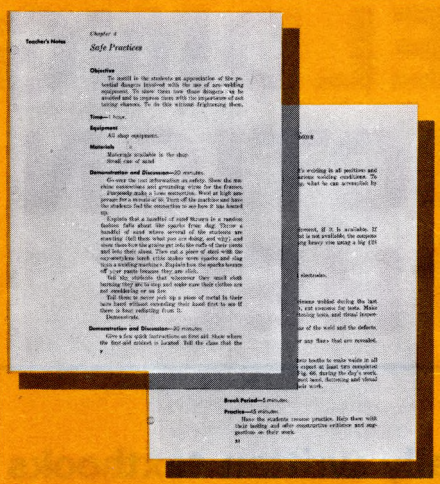
The James F. Lincoln Arc Welding Foundation was created in 1936 through a deed of trust, "to encourage and stimulate scientific interest in and scientific study, research and education in respect of the development of the arc welding industry through advance in the knowledge and design and practical application of the arc welding process." As a contribution to scientific progress and to promote industrial progress through education, the Foundation produced and publishes the books listed here as a non-profit service to industry.

THE JAMES F. LINCOLN ARC WELDING FOUNDATION
CLEVELAND OHIO





Arc Welding Instructions For The Beginner

Basic skill instruction for industrial, vocational, apprentice and in-plant training programs – 80 to 100 hours class time.

by H.A. SOSNIN

Basic textbook contains a series of 21 lessons on fundamental arc welding skills. The mastery of each lesson is another step toward learning how to arc weld in all positions. Beginners are taken – by the shortest possible route – from the study of certain process fundamentals through learning to strike an arc and run a bead to the advanced techniques for vertical and overhead welding.

Discussions concentrate on describing the manipulative skills for the basic weld types – fillet, lap, butt – in the various positions – flat, vertical, overhead, horizontal. Technical discussions on process applications, type of electrodes, machines, and basic metallurgy are necessarily brief and written on the beginner's level. A bibliography refers the serious student who wishes to continue upgrading his skills to other sources of information and education.

160 pages, 6" x 9", gold-embossed, cloth covered board binding.
$3.00 postage paid U.S.A.

CHAPTER SUBJECTS ARE:

1. What is Welding?
2. Arc Welding
3. Safe Practices
4. Striking an Arc
5. Running a Bead
6. Heat Measurement, Whipping and Weaving
7. Oxy-Acetylene Cutting
8. Fillet Welds
9. Corner Welds
10. Butt Welds in the Flat Position
11. Butt Welds in the Inclined Position
12. Welds in the Vertical Position
13. Fillet Welds Overhead
14. Welding Overhead on Flat Plate
15. Butt Welds Overhead
16. Fillet Welds with Joint Horizontal
17. Butt Welds in the Horizontal Position
18. Welding in All Positions
19. Welding with Poor Fit-Up
20. Welding Procedures
21. Testing and Inspection

Teacher's Manual

Is used in conjunction with "Arc Welding Instructions for the Beginner." Enables instructors to conduct classes directly from the manual. Minimizes time spent making lesson plans.

Outlines in detail 26 classroom presentations, each covering a specific chapter in the book. Detailed descriptions of these sessions list objectives, equipment, materials. It also suggests a time schedule for each session, and summarizes introduction, discussion, demonstration, review, summary and next lesson assignments.

8½" x 11" pages have marginal space for notes.

$2.00 postage paid, U.S.A. Included free with each order for 10 or more copies of Arc Welding Instructions for the Beginner.

Arc Welding Lessons For School And Farm Shop

By HAROLD L. KUGLER

Self-Teaching or High School Arc Welding Course of Instruction covers both basic and special skills. Vocational or industrial arts instructors can selectively choose topics to provide 30 to 180 hours of class time.

Eight informational lessons and six skill lessons introduce students to the basic techniques for arc welding in all positions -- vertical, flat, overhead. Later lessons deal with special skills -- hardsurfacing, arc brazing, cast iron welding, others.

Each chapter is complete in itself but they can each be studied in sequence to make a complete course. Each features a teaching guide for its particular subject, points out the objective of the lesson, lists key points, gives bills of materials for each example and includes suggestions for simplifying assignments.

343 6" x 9" pages of text, illustrations, photographs, diagrams, etc.

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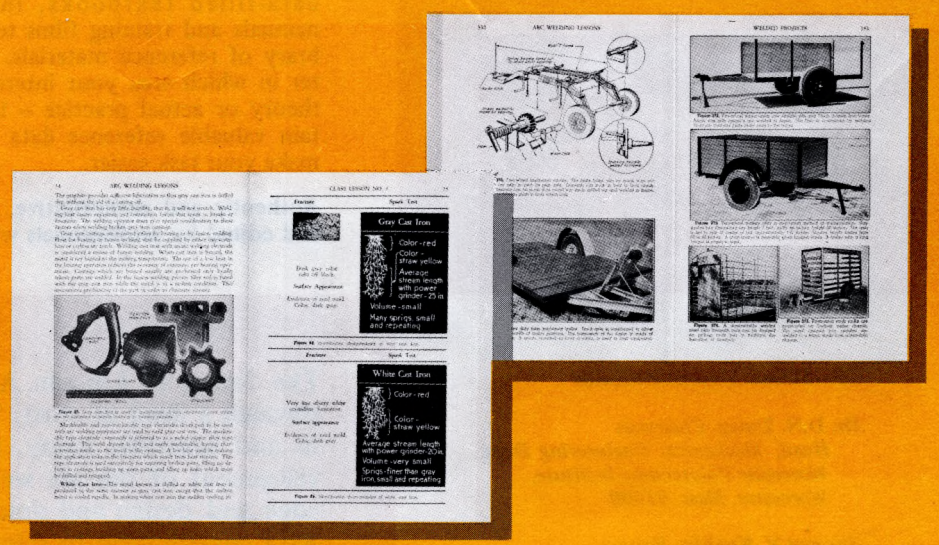

THE 3 SECTIONS INCLUDE:

I 8 informational lessons on arc welding.
Typical subjects: Selecting and Caring for Arc Welding Equipment; Controlling Distortion; Selecting Welding Electrodes and Operating Carbon Arc Torch.

II 17 operational lessons for developing skills in arc welding, cutting, brazing, soldering and hardsurfacing.
In this section, the students learn about Striking an Arc and Running a Flat Bead; Welding in Vertical Position; Welding in Overhead Position; Welding Sheet Metals and Cast Iron; Building Up Worn Parts and Brazing Sheet Metal.

III Shop projects and index.
Arc Welded projects.

New

Principles of Industrial Welding

Designed as a reference and background text for students in welding technology, this book would be a valuable volume to anyone making a career in welding. The text has been intentionally simplified to give it widespread application to anyone associated with welding as a production process. The intent is to give a broad perspective of the fusion processes by which metals are joined, without overelaboration on specific subjects.

Processes which have widespread application such as shielded metal-arc and semiautomatic self-shielded and gas shielded electrodes are discussed in considerable detail. Plasma-arc welding is discussed only briefly. This weighting of the topics is based on current usage of the welding processes in industry, and thus the proportionate career opportunities.

This book draws heavily on *The Procedure Handbook* published by The Lincoln Electric Company. (We would not recommend purchase if you have that book.) It also draws from standardizing and code literature from the American Welding Society, American Society for Metals, AISC, ASTM, API, AISI, ASME, and others.

384 pages, 8" x 10¾", gold-embossed hard cover.

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CHAPTER SUBJECTS

1. Introduction
2. Safety
3. Fundamentals
4. Power Sources
5. Consumables
6. Weldability
7. Joint Design
8. Problems in Arc Welding
9. Welding Procedures – specific
10. Shielded Metal-Arc Process
11. Submerged Arc Process
12. Self-Shielded Flux-Cored Process
13. Gas-Shielded Process
14. Oxyacetylene Welding
15. Thermal Metal-Cutting
16. Brazing and Soldering
17. Brazing and Soldering Aluminum
18. Welding Stainless Steels
19. Hardsurfacing
20. Welding High-Strength Steels
21. Welding Steel Pipe
22. Resistance Welding
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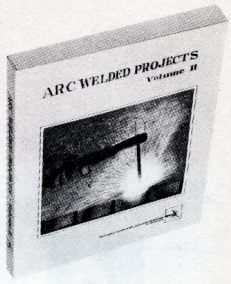
24. Qualification Tests
25. Special Welding Processes

Arc Welded Projects — Vol. II



This book contains plans, suggestions, drawings, and instructions for making useful shop tools, mechanical devices, trailers, recreational and home equipment, and farming equipment. The complete table of contents is listed inside.

If you own or have access to an arc welder and other basic metalworking tools this book will show you how to make these projects at a fraction of the cost of purchasing. You can adapt them to fit your own special needs or desires. All of these projects have been constructed by shop students. Their plans and procedures were submitted as entries in the annual Lincoln Arc Welding Foundation Award Programs.

280 8½" x 11" pages of text, over 500 illustrations and drawings.

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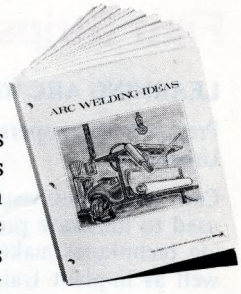
Arc Welding Ideas



This 160 page, 8½" x 11" book contains ideas of people who have developed ways to improve their use of arc welding in reducing costs, conserving material, time and energy. The ideas were submitted as entries in Award Programs sponsored by The James F. Lincoln Arc Welding Foundation. The case histories containing these ideas relate to the manufacture of machinery and metal products, structures, containers, transportation equipment and to a wide variety of maintenance problems.

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Metals And How To Weld Them

Second Edition

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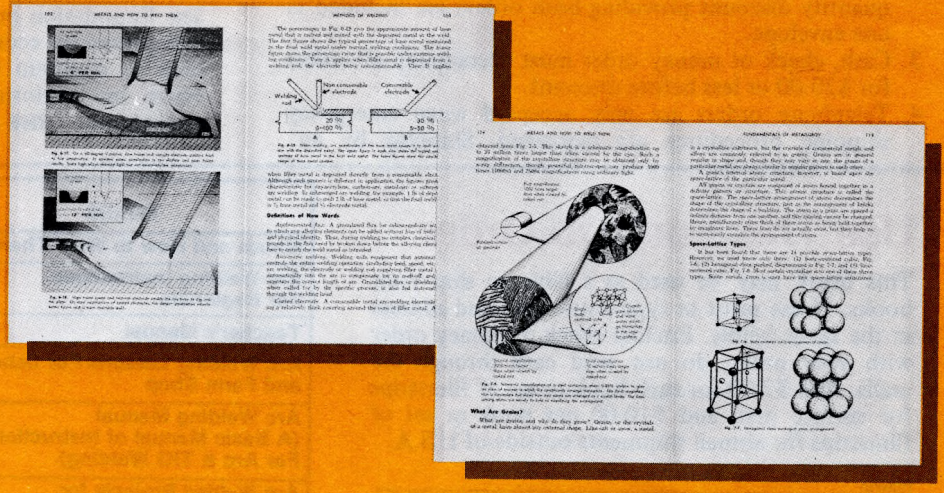

This practical manual describes the internal structure of metals and its relation to mechanical and physical properties and weldability. Also discusses the various metals used by industry and tells what welding process and procedures are used to join them.

This dual-purpose textbook and reference manual is written in non-technical language. High school students, weldors, supervisors, engineers and educators can easily understand and assimilate the data it contains.

The 400 pages contain 195 photos, diagrams and tables. All 21 chapters include a glossary of the new terms used in the chapter, plus review questions of important points noted in the text.

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6. Methods of Welding
7. Fundamentals of Metallurgy
8. Metallurgy and Heat Treating
9. Metallurgy and Welding
10. Welding Low-Carbon Steel
11. Welding Medium-Carbon Steel
12. Welding High-Carbon Steel
13. Welding Alloy Steels
14. Welding Cast Iron
15. Stainless and High-Chrome
16. Austenitic Manganese Steel
17. Welding Non-Ferrous Metals
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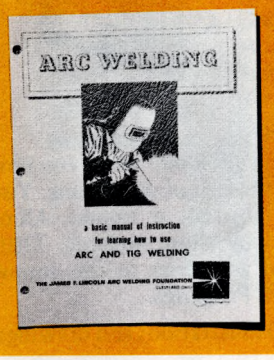
19. Welding Tool and Die Steels
20. Welding the Exotic Metals
21. Good Welds and How to Make Them

Arc Welding Manual


ARC WELDING
a basic manual of instruction
for learning how to use
ARC AND TIG WELDING
THE JAMES F. LINCOLN ARC WELDING FOUNDATION

By:

William A. Sellon, Dept. of Industrial Arts Education, Bemidji State College, Bemidji, Minn.

John W. Matthews, Vocational Agriculture Services, University of Illinois, Urbana, Illinois.

Louis De Freitas, Welding Instructor, College of San Mateo, San Mateo, Calif.

This brief non-technical manual introduces students to the fundamentals of arc welding. Ideal for short course and self-instruction programs.

Included in the manual is a section written to help beginning students learn basic TIG welding techniques and manipulative skills they can use later in specific industrial projects. Even industrial engineers, designers, foremen and supervisors will find it useful.

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Prepared in cooperation with The Vocational Agriculture Service, Univ. of Illinois, Urbana, Ill.

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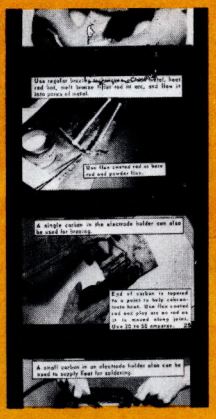

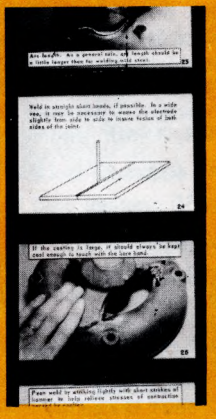

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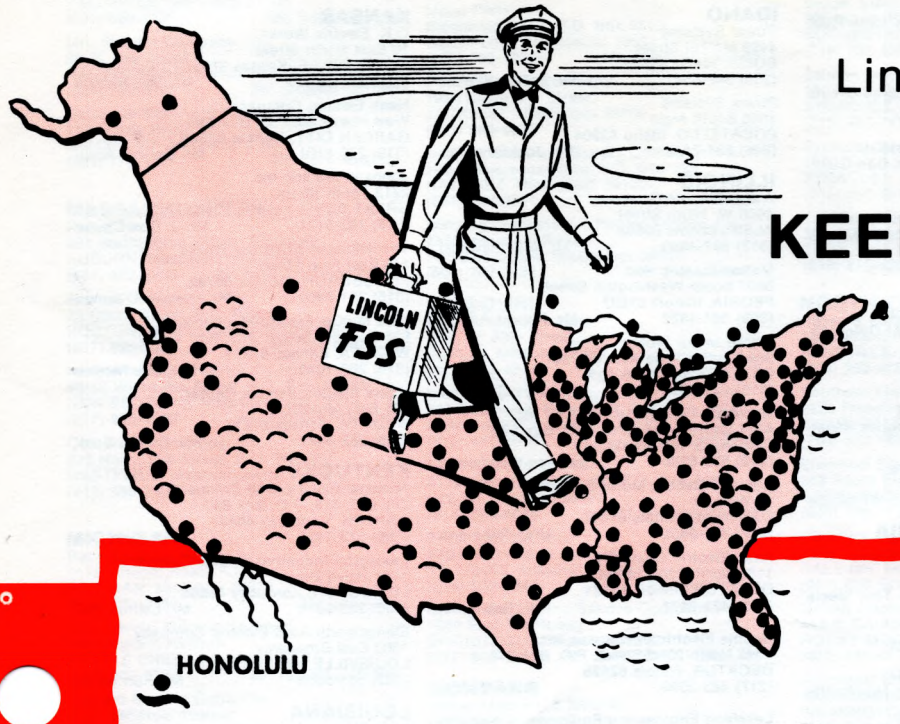

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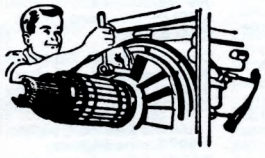

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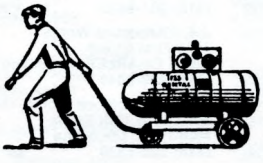

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INDIANAPOLIS, Indiana 46225
(317) 638-7538 Mr. Dan Whisenand

Universal Electric Company, Inc.
1603 S. Walnut
MUNCIE, Indiana 47302
(317) 282-2225 Mr. Richard Wallace

Mittler Supply, Inc.
3607 S. Main Street
SOUTH BEND, Indiana 46614
(219) 291-5334 Mr. Tom Mittler

Walker Electric Service Company, Inc.
124-130 South 3rd Street
TERRE HAUTE, Indiana 47808
(812) 232-0461 Mr. L.J. Michi

IOWA

Janda Electric Motor Service, Inc.
1716 Blairs Ferry Road, N.E.
CEDAR RAPIDS, Iowa 52402
(319) 393-1230 Mr. Donald Janda

Industrial Engineering Equipment Company
1958 West River Street
DAVENPORT, Iowa 52808
(319) 323-9721 Mr. Charles Freeman

Electrical Engineering & Equipment
1201 Walnut Street
DES MOINES, Iowa 50307
(515) 282-0431 Mr. Norman Iverson

Martin Machine & Electric, Inc.
638 East Main Street
OTTUMWA, Iowa 52501
(515) 682-7588 Mr. Wayne L. Martin

KANSAS

O.K. Electric Works
10 East North Street
COFFEYVILLE, Kansas 67337
(316) 251-2270 Mr. Olin Hamlin

Naab Electric Company
West Hiway 50, P.O. Box 585
GARDEN CITY, Kansas 67846
(316) 276-8101 Mr. George Naab

Johnson Electric Inc.
2212 Tenth Street
GREAT BEND, Kansas 67530
(316) 793-5771 Mr. J. Don Clarke

The Atkinson Armature Works
116 East First Street
PITTSBURGH, Kansas 66762
(316) 231-6900 Mr. Harold R. Brown

Dale McKee Electro-Mechanics
825 East 8th Street, P.O. Box 17085
WICHITA, Kansas 67217
(316) 267-1079 Mr. Dale McKee

Mears Electric Service Center
925 East Murdock
WICHITA, Kansas 67214
(316) 262-3427 Ms. Donna Buck

KENTUCKY

National Electric Coil Company
Old U.S. 119, P.O. Box 840
HARLAN, Kentucky 40831
(606) 573-1450 Mr. Don Cox

Lexington Industrial Service Company
1151 Floyd Drive
LEXINGTON, Kentucky 40505
(606) 255-0810 Mr. Lonnie Hall

Ellingsworth Auto Electric Company
1003 East Broadway
LOUISVILLE, Kentucky 40204
(502) 585-5055 Mr. Ken Banet

LOUISIANA

M.C. Electric, Inc.
309 Southwest Bayou Boeuf Road
AMELIA, Louisiana 70340
(504) 631-2851 Mr. Mike Burgess

Capital Armature Works, Inc.
3075 Rosenwald, P.O. Box 73853
BATON ROUGE, Louisiana 70807
(504) 357-6487 Mr. Clifton M. Creighton

Louisiana Electric Coil, Inc.
11997 Airline Highway
BATON ROUGE, Louisiana 70816
(504) 293-3333 Mr. Rodney Menard

Welding Equipment Services & Sales, Inc.
5555 Airline Highway
BATON ROUGE, Louisiana 70805
(504) 356-6171 Mr. Jim Humble

New Orleans Armature Works Div.
1421 McArthur Avenue
HARVEY, Louisiana 70058
(504) 340-1716 Mr. Sylvan LeMoine

Houma Armature Works & Supply Co.
2531 Cummins Road, P.O. Box 10127
HOUMA, Louisiana 70360
(504) 876-0198 Mr. Woody Murray

Welder's Service Center & Repairs, Inc.
South Lewis St. @ Port of New Iberia
P.O. Box 9357
IBERIA, Louisiana 70560
(318) 367-8429 Mr. Charles Thibodaux

J & J Armature Works
1612 First Street
LAKE CHARLES, Louisiana 70601
(318) 439-8849 Mr. C.K. Narans

Monroe Armature Works, Inc.
504 North 17th Street
MONROE, Louisiana 71201
(318) 325-7338 Mr. Dick Culpepper

Welders Repair Service
2601 Washington Street, P.O. Drawer 1842
MONROE, Louisiana 71201
(318) 387-0437 Mr. Elmer Audirsch

Electrical Industries, Inc.
2311 Tchoupitoulas Street
NEW ORLEANS, Louisiana 70130
(504) 586-9564 Mr. Tony Rossi

Carl Pons Electric Motor Service, Inc.
3538 Mansfield Road, P.O. Box 3570
SHREVEPORT, Louisiana 71103
(318) 221-7193 Mr. Monroe Carlin

A & H Armature Works, Inc.
1330 Westbank Exp., P.O. Box 310
WESTWEGO, Louisiana 70094
(504) 347-3781 Mr. Jonny Messmer

MAINE

Stultz Electric Works
81 East Avenue
LEWISTON, Maine 04240
(207) 784-4411 Mr. Edward Bouttenout

Stultz Electric Works
25 Bridge Street
WESTBROOK, Maine 04092
(207) 854-2501 Mr. James Sorenson

MARYLAND

Arc Welder Sales and Rental
3403 Sinclair Lane
BALTIMORE, Maryland 21213
(301) 276-1200 Mr. Earl Smith

M & M Electric Motor Repair Div.
702 East Street, P.O. Box 519
FREDERICK, Maryland 21701
(301) 663-1100 Mr. Robert Bailey

M/L Electric Company, Inc.
88 W. Lee Street
HAGERSTOWN, Maryland 21740
(301) 739-8285 Mr. Donald Corbett

Delmarva Electric Motors, Inc.
111 Gordy Road
SALISBURY, Maryland 21801
(301) 749-1377 Mr. Tom Messick

MASSACHUSETTS

Preco, Inc.
421 Washington Street, Route 20
AUBURN, Massachusetts 01501
(617) 832-9604 Mr. Nick Charalambedes

Joseph C. Helmund Inc.
79 Clapp Street, P.O. Box 40
BOSTON, Massachusetts 02125-1686
(617) 825-3230 Mr. Joe Helmund

Northern Electric Motor Company
48-52 Wamsutta Street, P.O. Box A2025
NEW BEDFORD, Massachusetts 02741
(617) 993-1100 Mr. Eugene Rheaume

Carbone Technology, Inc.
275 North Elm Street, P.O. Box 253
WESTFIELD, Massachusetts 01085
(413) 568-2600 Mr. Jim Paroline

MICHIGAN

Rapa Electric, Inc.
1175 Lincoln Road, R.R. 7
ALLEGAN, Michigan 49010
(616) 673-3157 Mr. Jim Rapa

Commercial Electric Company
333 Hamblin Avenue
BATTLE CREEK, Michigan 49015
(616) 962-8789 Mr. Robert C. Galen

Howard Electric Company
4801 Bellevue Avenue
DETROIT, Michigan 48207
(313) 923-0430 Mr. L.H. Schihl

Whittaker Electric Company
1336 Front Avenue, N.W.
GRAND RAPIDS, Michigan 49504
(616) 458-1253 Mr. Ron Drier

Z & R Electric Service, Inc.
619 Industrial Park Drive, P.O. Box 667
IRON MOUNTAIN, Michigan 49801
(906) 774-0468 Mr. Raymond Struve

Barker Fowler Electric Company
500 North Larch Street
LANSING, Michigan 48914
(517) 372-8400 Mr. Charles Cunningham

Electric Equipment and Supply
14365 8th Avenue
MARNE, Michigan 49435
(616) 677-3595 Mr. Al Davignon

Electric Equipment and Supply Company
2711 McIlwraith Street
MUSKEGON HEIGHTS, Michigan 49444
(616) 733-1249 Mr. Dan Wilkerson

Petoskey Electric Motor Service, Inc.
3018 U.S.-131 South, P.O. Box 672
PETOSKEY, Michigan 49770
(616) 347-8777 Mr. Bill Poquette

Hamilton Electric Company
3101 Shattuck Road
SAGINAW, Michigan 48603
(517) 799-6291 Mr. Don Doyle

REMS Corporation — Tri-City Div.
1716 South Jefferson Avenue
SAGINAW, Michigan 48601
(517) 754-1421 Mr. Donald Hertz

Automatic Weld & Motor Service
9318 W. Reid Road
SWARTZ CREEK, Michigan 48473
(313) 635-4037 Mr. Todd Masack

Davis Electric Company
1131 Hastings Street
TRAVERSE CITY, Michigan 49684
(616) 947-9860 Mr. Thomas S. Davis

Spina Electric Company
26801 Groesbeck Hwy.
WARREN, Michigan 48089
(313) 771-8080 Mr. Sam Gentile

MINNESOTA

Mielke Electric Works, Inc.
2606 West Michigan Street
DULUTH, Minnesota 55806
(218) 727-7411 Mr. Mike Hennessy

Parsons Electric Company
917 Fifth Avenue, South
MINNEAPOLIS, Minnesota 55404
(612) 339-8761 Mr. Jim Moryn

Horvick Electric Motor Company
305 Maine Avenue
MOORHEAD, Minnesota 56560
(218) 233-1566 Mr. Vaughn Johnson

TEC Industrial, Inc.
1701 Third Avenue, S.E.
ROCHESTER, Minnesota 55901
(507) 288-9133 Mr. Ron Watts

MISSISSIPPI

Electric Motor Sales & Service
2224 Main Street, P.O. Box 1352
COLUMBUS, Mississippi 39701
(601) 327-1606 Mr. Dennis Blake

Metal Parts, Inc.
Riechhold Road, P.O. Box 6513
GULFPORT, Mississippi 39501
(601) 896-1920 Mr. Ted Cumberland

Power Electric Company
1920 North Mill Street
JACKSON, Mississippi 39206
(601) 948-4622 Mr. John Lifer

Natchez Electric & Supply Company, Inc.
190-D Evereaux Drive, P.O. Box 825
NATCHEZ, Mississippi 39120
(601) 442-2711 Mr. A.H. McDonald

Welding Equipment & Repair Service, Inc.
4325 Industrial Road
PASCAGOULA, Mississippi 39567
(601) 762-7433 Mr. Harry Moore

MISSOURI

Electric Motor Supply
2301 W. 20th Street
JOPLIN, Missouri 64801
(417) 623-4544 Mr. Jim Wood

Independent Electric Machinery Company
300 Southwest Boulevard, P.O. Box 19047
KANSAS CITY, Missouri 64141
(816) 471-2610 Mr. Jeff Rudd

Electric Motor Works
6112 Highway 63, South, P.O. Box 746
ROLLA, Missouri 65401
(314) 364-4648 Mr. Sidney Shoelen

Zeller Electric, Inc.
4250 Hoffmeister Avenue
ST. LOUIS, Missouri 63125
(314) 638-9641 Mr. Ron Rolfes

Springfield Electric Service Company
1640 East Trafficway
SPRINGFIELD, Missouri 65802
(417) 865-1626 Mr. O.W. (Bud) Wallar, Jr.

MONTANA

Weber Machine & Electric
2424 First Avenue South
BILLINGS, Montana 59101
(406) 245-7928 Mr. John Weber

Electro Service Center
1919 Harve Avenue
MISSOULA, Montana 59801
(406) 549-4115 Mr. Jerry Williams

NEBRASKA

Fuchs Machinery & Supply Company
2401 North Eleventh Street
OMAHA, Nebraska 68110
(402) 341-7050 Mr. Milt L. Beecher

H.M. Brown Electric Company
706 South Broadway, P.O. Box 833
SCOTTSBLUFF, Nebraska 69361
(308) 635-2622 Mr. Robert Parks

NEVADA

Henderson Electric Motors, Inc.
1414 Athol Street
HENDERSON, Nevada 89015
(702) 564-5575 Mr. Glenn Gregerson

Industrial Electric
1275 Kleppe Lane, Unit #19
SPARKS, Nevada 89431
(702) 331-1032 Mr. Don Dolliver

NEW JERSEY

Welding Rental & Repair Company
47-55 St. Charles Street
NEWARK, New Jersey 07105
(201) 344-5000 Mr. Daniel Gallagher

Welders Parts and Service Company
4 Val Street
SAYREVILLE, New Jersey 08872
(201) 721-1155 Mr. Stanley Szewczyk

Lockwood's Electric Motor Service
2239 Nottingham Way
TRENTON, New Jersey 08619
(609) 587-2333 Mr. James Dey, Jr.

NEW MEXICO

Big Three Industries, Inc.
8200 Washington N.E.
ALBUQUERQUE, New Mexico 87113
(505) 897-0610 Mr. Rick Borresen

Telco Electric Inc.
2906 Fourth Street, N.W.
ALBUQUERQUE, New Mexico 87110
(505) 345-2426 Mr. Jerry Tolley

A.B. Lane Electric Motor Service Company
607 E. Animas
FARMINGTON, New Mexico 87401
(505) 327-9442 Mr. Wayne Lane

NEW YORK

Volland Electric Equipment Company, Inc.
1511 Niagara Street
BUFFALO, New York 14213
(716) 884-2713 Mr. Don L. Rasmus

Westburgh Electric, Inc.
16 Scott Street, P.O. Box 1319
JAMESTOWN, New York 14701
(716) 488-1172 Mr. Ted Butryn

Whaley Brothers, Inc.
31-29 Vernon Boulevard
LONG ISLAND CITY, New York 11106
(212) 728-8788 Mr. Joe Schad

W.R. Repair Service, Inc.
2-B Megquier Lane
BREWSTER, New York 10560
(914) 669-5517 Mr. Jack Gress

Berger Electric Corporation
295 Mount Read Boulevard
ROCHESTER, New York 14611
(716) 235-4070 Mr. R.W. Carlin

Salmon Motor Repair Service
110 Falso Drive
SYRACUSE, New York 13211
(315) 455-7478 Mr. Larry Pendergast

Syracuse Square Electric Company, Inc.
6500 Taft Road
SYRACUSE, New York 13057
(315) 458-6811 Mr. Richard C. Solberg

Tri-State Electric Motors, Inc.
351-355 Second Street
TROY, New York 12181
(518) 272-4250 Mr. John Bruno

NORTH CAROLINA

Hayes & Lunsford Electric Company
226 Hilliard Avenue, P.O. Box 754
ASHEVILLE, North Carolina 28802
(704) 252-4786 Mr. Phil Presley

Southern Electric Service Company, Inc.
2225 Freedom Drive, P.O. Box 668089
CHARLOTTE, North Carolina 28208
(704) 372-4832 Mr. James Ferrell

Electrical South Service & Supply Company
853 South Elm Street, P.O. Box 22016
GREENSBORO, North Carolina 27420
(919) 378-1775 Mr. Lucky Burchette

Electrical Equipment Company
2526 Hillsboro Road
RALEIGH, North Carolina 27650
(919) 828-5411 Mr. Ray Alford

United Electric Service Inc.
413 S. Church Street
ROCKY MOUNT, North Carolina 27801
(919) 446-4173 Mr. Jerry Adams

Southeast Electric Motor Service
1020 Chestnut Street
WILMINGTON, North Carolina 28401
(919) 763-7048 Mr. John McLean

OHIO

J.B. Welding
1550 Marietta Avenue, S.E.
CANTON, Ohio 44707
(216) 456-1550 Mr. Harold Pyles

Cincinnati Armature Works, Inc.
6516 Wiehe Road
CINCINNATI, Ohio 45237
(513) 631-3020 Mr. Wally Zuberbuhler

Willey-Wray Electric Company
20 East 72nd Street
CINCINNATI, Ohio 44526
(513) 761-6105 Mr. Gary Potts

Electric Welder Repair, Inc.
3305 Croton Avenue
CLEVELAND, Ohio 44115
(216) 621-2320 Mr. Terry Owen

The Lincoln Electric Company
22801 St. Clair Avenue
CLEVELAND, Ohio 44117
(216) 481-8100 Mr. G.M. Strohm

Vollmer Electric Motor Service
540 South Front Street
COLUMBUS, Ohio 43215
(614) 228-5265 Mr. Bud Vollmer

The Dayton Electric Service Company
34 North Patterson Boulevard
DAYTON, Ohio 45402
(513) 222-6375 Mr. Ronnie Mikel

Industrial Electric Motors, Inc.
5131 Webster Street
DAYTON, Ohio 45414
(513) 278-7355 Mr. Tom Wilson

M & R Electric Motor Service, Inc.
1516 E. Fifth Street
DAYTON, Ohio 45403
(513) 222-6282 Mr. Ron Mader

Rems, Incorporated
1712 Spruce Street, P.O. Box 422
DEFIANCE, Ohio 43512
(419) 782-4401 Mr. Larry Caiola

Buckeye Welder Services, Inc.
211 E. Robb Avenue
LIMA, Ohio 45801
(419) 228-1008 Mr. John Rice

Bonham Inc.
225 Central Avenue
MANSFIELD, Ohio 44905
(419) 522-0451 Mr. Ed. Mitchell

The Girkins Electric Company
2056 Canton Street
TOLEDO, Ohio 43620
(419) 243-9238 Mr. R.G. Girkins

The Phoenix Electric Company
1623 Wilson Avenue
YOUNGSTOWN, Ohio 44506
(216) 744-8441 Mr. Charles Whetson

Hannon Electric Co.
218 Adams Street, P.O. Box 711
ZANESVILLE, Ohio 43701
(614) 453-0527 Mr. Ned Kilper

OKLAHOMA

Kay Electric Company
1101 West Broadway, P.O. Box 635
ALTUS, Oklahoma 73521
(405) 482-1757 Mr. Hershel Kay

T & M Welder Repair
905 South Second Street, P.O. Box 989
DUNCAN, Oklahoma 73533
(405) 255-0207 Mr. P.W. Harwell

All State Electric Motor & Equipment Co.
1839 Linwood Boulevard
OKLAHOMA CITY, Oklahoma 73106
(405) 232-1129 Mr. Lewis Retter

Southwest Electric Company
2617 South Agnew
OKLAHOMA CITY, Oklahoma 73108
(405) 634-4445 Mr. Bill Ellsworth

Southwest Electric Co.
418 South Third Street
PONCA CITY, Oklahoma 74601
(405) 762-6344 Mr. Dean McBride

In En Corporation
1016 East Airport Road
STILLWATER, Oklahoma 74074
(405) 624-5185 Mr. Robert Overton

Evans Electric Service Center
2002 Southwest Blvd., P.O. Box 1316
TULSA, Oklahoma 74107
(918) 587-1566 Mr. Jerry Burgess

National Electric Coil Company
39 North Peoria Avenue
TULSA, Oklahoma 74120
(918) 587-1125 Mr. T.W. New

Kay Electric Motors
810 — 48th Street, P.O. Box 1379
WOODWARD, Oklahoma 73801
(405) 256-3254 Mr. Dean Hensley

OREGON

Waddell Electric Company
375 N.E. Burnside
BEND, Oregon 97701
(503) 382-2068 Mr. Gary Wilde

Electrical Construction Company
2121 N.W. Thurman Street, P.O. Box 3109
PORTLAND, Oregon 97208
(503) 224-3511 Mr. Orval Wilson

PENNSYLVANIA

Crowder, Jr. Company
1818 Vultee Street, P.O. Box 659
ALLENTOWN, Pennsylvania 18105
(215) 791-1551 Mr. Dave Frederick

Electric Motor & Supply Inc.
1000 — 50th Street
ALTOONA, Pennsylvania 16603
(814) 946-0401 Mr. W. Rose

Crowder, Jr. Company
2184 Industrial Drive
BETHLEHEM, Pennsylvania 18001
(215) 866-8081 Mr. Richard Lehr

Bovaird Company
181 Main Street
BRADFORD, Pennsylvania 16701
(814) 368-7141 Mr. Lee D. Morehouse

Crowder, Jr. Company
624 Lehigh Drive
EASTON, Pennsylvania 18042
(215) 258-9191 Mr. Ralph Fenicle

Rems Corporation
2227 E. 33rd Street
ERIE, Pennsylvania 16510
(814) 898-1555 Mr. Robert Parker

Eclipse Electric Company
508 Buffalo Street
FRANKLIN, Pennsylvania 16323
(814) 432-3519 Mr. Karl Knight

Flood City Brass & Pump Company
Messenger & Elder Streets, P.O. Box 758
JOHNSTOWN, Pennsylvania 15907
(814) 539-8751 Mr. Glen Shaffer

Multielectric Inc.
70 Pitney Road, P.O. Box 1477
LANCASTER, Pennsylvania 17604
(717) 392-2129 Mr. Ron Snyder

Allied Motor and Parts
144 Reno Street
NEW CUMBERLAND, Pennsylvania 17070
(717) 774-0870 Mr. Wayne Lebo

Penn Electric Motor Company, Inc.
3080 Emerald Street
PHILADELPHIA, Pennsylvania 19134
(215) 426-9920 Mr. Ron Rieger

Weld Tooling Corporation
3001 West Carson Street
PITTSBURGH, Pennsylvania 15204
(412) 331-1776 Mr. T.J. Pihony

Standard Electric Service Corp.
4420 Pottsville Pike
READING, Pennsylvania 19605
(215) 921-2781 Mr. Stanley Mueller

North End Electric Service
1700 North Keyser Avenue
SCRANTON, Pennsylvania 18508
(717) 342-6740 Mr. John Moxen

RHODE ISLAND

Walco Electric Company
303 Allens Avenue
PROVIDENCE, Rhode Island 02901
(401) 467-6500 Mr. Joseph Sousa

SOUTH CAROLINA

Delta Electric Motors & Eqiupment Service Co., Inc.
1906 Meeting St. Road
CHARLESTON, South Carolina 29405
(803) 577-5670 Mr. R.E. Lewis

Ireland Electric Corp.
2200 Heriot Street
CHARLESTON, South Carolina 29403
(803) 723-6449 J.A. Garvalia

Electric Motor & Repair Company
534 Lady Street
COLUMBIA, South Carolina 29202
(803) 765-0710 Mr. Dewey Shealy

Kennedy Electrical Supply Co., Inc.
#20 Piedmont Hwy., P.O. Box 5639, Station B
GREENVILLE, South Carolina 29606
(803) 277-7763 Mr. Pete Ciarla

Southern Electric Service Company
1301 Union Street, P.O. Box 2229
SPARTANBURG, South Carolina 29302
(803) 583-5415 Mr. M.S. McBride, Jr.

SOUTH DAKOTA

Harrington Electric Motor Co.
404 St. Onge Street
RAPID CITY, South Dakota 57701
(605) 348-0525 Mr. James Harrington

Electric Motor Repair & Machine Works
927 East Eighth Street
SIOUX FALLS, South Dakota 57103
(605) 336-3020 Mr. Henry Sachen

TENNESSEE

Chattanooga Armature Works
1209 East 23rd Street
CHATTANOOGA, Tennessee 37408
(615) 267-7665 Mr. Charles Crabtree

Middle Tennessee Armature Works
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COLUMBIA, Tennessee 38401
(615) 388-3672 Mr. Robert A. Cleveland

Tennessee Armature & Electric Company
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(615) 524-3681 Mr. Shearl Brabson

Stevens Electric Company
812 North Main Street
MEMPHIS, Tennessee 38107
(901) 527-8684 Mr. Bob Stevens

Tri-State Armature & Electrical Works, Inc.
330 East Calhoun
MEMPHIS, Tennessee 38101
(901) 527-8412 Mr. Harry Tate, Jr.

Nashville Armature Company
1416 Lebanon Road, P.O. Box 100155
NASHVILLE, Tennessee 37210
(615) 255-1293 Mr. Forrest Cooper

Tennessee Electric Motor Co.
408 — 6th Avenue, South
NASHVILLE, Tennessee 37203
(615) 255-7331 Mr. Edwin Grant

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Big Three Industries, Inc.
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AUSTIN, Texas 78702
(512) 385-2247 Mr. Charlie Watson

Big Three Industries, Inc.
Highway 347 South
BEAUMONT, Texas 77704
(713) 727-1466 Mr. H.R. Johnston

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(806) 274-2274 Mr. Raymond Ingram

Big Three Industries, Inc.
P.O. Box 1648
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Big Three Industries, Inc.
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CORPUS CHRISTI, Texas 78408
(512) 289-0044 Mr. D.E. Walden

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(915) 788-8306 Mr. Tony Franco

Big Three Industries, Inc.
2323 Forest Lane
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(214) 276-9556 Mr. Ted Wilson

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(214) 647-0110 Mr. James White

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(713) 474-3255 Mr. Dave Pagel

Big Three Industries, Inc.
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HOUSTON, Texas 77001
(713) 868-0333 Mr. Virgil Stone

Big Three Industries, Inc.
710 F.M. Road #1845
LONGVIEW, Texas 75602
(214) 758-8296 Mr. "Red" Ballard

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LUBBOCK, Texas 79408
(806) 763-8241 Mr. Richard Gunkle

Big Three Industries, Inc.
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ODESSA, Texas 79760
(915) 332-8501 Mr. Ted Parsons

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(713) 474-3255 Mr. Bob Barnett

Big Three Industries, Inc.
1547 West Poplar Street
SAN ANTONIO, Texas 78207
(512) 736-4681 Mr Melvin A. Franz

UTAH

C.W. Silver Company, Inc.
535 West 7th Street, South
SALT LAKE CITY, Utah 84101
(801) 355-5373 Mr. R.H. Nygard

VIRGINIA

Industrial Electric Corp.
700 — 5th Street
LYNCHBURG, Virginia 24504
(804) 845-5923 Mr. C.L. Shaner

Caddell Electric Company
1250 Bolton Street
NORFOLK, Virginia 23504
(804) 625-4261 Mr. Earl W. Caddell, Sr.

Electrical Equipment Company
1807 Boulevard West
RICHMOND, Virginia 23230
(804) 353-7841 Mr. Charles Bass

Lloyd Electric Company, Inc.
605 Third Street, S.E.
ROANOKE, Virginia 24013
(703) 982-0135 Mr. Dean S. Lloyd

WASHINGTON

Electric Motors Inc.
1526 — 1st Avenue, South
SEATTLE, Washington 98134
(206) 623-5072 Mr. Harold Musolf, Jr.

K & N Electric Motors, Inc.
217 West Cataldo Avenue
SPOKANE, Washington 99210
(509) 328-3260 Mr. Bob Vawter

WEST VIRGINIA

Pocahontas Welding Supply
U.S. Route 52 North, P.O. Box 1256
BLUEFIELD, West Virginia 24701
(304) 327-6147 Mr. Mark Johnson

Kanawha Electric & Machine Company
6304 MacCorkle Avenue, S.E.
CHARLESTON, West Virginia 25304
(304) 925-6691 Mr. Scott Bickel

Start Delta Electric Div.
212 Seventeenth Street
HUNTINGTON, West Virginia 25703
(304) 522-2007 Mr. Tony Magariello

West Electric & Machine Company
Route 7, Box 253
MORGANTOWN, West Virginia 26505
(304) 296-8201 Mr. Doyle West

Warwood Armature Repair Co.
623 North River Road
WHEELING, West Virginia 26003
(304) 277-2550 Mr. Gary R. Thalman

WISCONSIN

Beemster Electric Company
133 North Broadway, P.O. Box 2506
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(608) 754-4403 Mr. Robert Falk

Electric Motor Service, Inc.
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MADISON, Wisconsin 53704
(608) 255-4875 Mr. Jack Rebholz

Electric Sales & Engineering Company
15755 W. Rogers Drive
NEW BERLIN, Wisconsin 53151
(414) 782-2400 Mr. Bobby Beard

Leverance Electric Motor Service
Hwy. XX Weston Industrial Park, P.O. Box 66
ROTHSCHILD, WISCONSIN 54474
(715) 359-4207 Mr. Harlan Lewitzke

WYOMING

Electric Service Company
3289 South Prospector Drive, P.O. Box 420
CASPER, Wyoming 82602
(307) 266-1000 Mr. Jim Mooney

Specialty Electric Company, Inc.
2200 Commerce, P.O. Box 1224
ROCK SPRINGS, Wyoming 82901
(307) 382-2654 Mr. Donald Skorcz

CANADA

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Star Electric Ltd.
3525 — 62nd Avenue, S.E.
CALGARY, Alberta
(403) 273-8000 Mr. Kurk Kenk

Electric Motor Service Ltd.
10589 — 106th Street
EDMONTON, Alberta
(403) 426-6490 Mr. Cyril Ward

Great West Electric Ltd.
6210 Davies Road
EDMONTON, Alberta
(403) 465-3331 Mr. B. Doblen

Standard Electric Ltd.
4755 Eleniak Road, P.O. Box 5773
EDMONTON, Alberta
(403) 465-9817 Mr. A. Opgenorth

BRITISH COLUMBIA

C.R. Western Electric Ltd.
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CAMPBELL RIVER, British Columbia
(604) 287-8501 Mr. E. Soltys

Elektro-Dohmen
Box 53
GRAY CREEK, British Columbia
(604) 227-9329 Mr. D. Dohmen

R.J. Schnurr Electric Company
755 Laval Crescent
KAMLOOPS, British Columbia
(604) 374-5684 Mr. Ross Schnurr

Electric Power Equipment Ltd.
1837 Ogilvie Street
PRINCE GEORGE, British Columbia
(604) 564-4484 Mr. Mark Marusin

B & H Welder Repair Service Ltd.
1538 Venables Street
VANCOUVER, British Columbia
(604) 277-0528 Mr. G. Robins

E.H. Emery & Esquimalt Electric Ltd.
859 Viewfield Road
VICTORIA, British Columbia
(604) 383-6961 Mr. J. Leys

MANITOBA

K.N.C. Electric Ltd.
49 Severn Cres.
THOMPSON, Manitoba
(204) 677-9186 Mr. J. Cunday

Kings Electric Motors Ltd.
835 Main Street
WINNIPEG, Manitoba
(204) 947-1271 Mr. J.B. Thickson

Luke's Machinery (1968) Ltd.
318 Notre Dame Avenue
WINNIPEG, Manitoba
(204) 943-3421 Mr. Mel Lazareck

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E.S. Stephenson & Company Limited
Grandview Industrial Park
SAINT JOHN, New Brunswick
(506) 657-3189 Mr. G. Seely

NOVA SCOTIA

Industrial Engineering Company, Ltd.
6331 Lady Hammond Road
HALIFAX, Nova Scotia
(902) 455-1531 Mr. Robert Harris

Nova Scotia Armature Works
2453 James Street
HALIFAX, Nova Scotia
(902) 429-1590 Mr. Don Merson

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Surgeson Electric Ltd.
1730 Pitt Street
CORNWALL, Ontario
(613) 933-2355 Mr. K. Thompson

Alfred Schnurr Electric Company, Ltd.
64-80 Gordon Street
GUELPH, Ontario
(519) 822-5480 Mr. John Lowes

Dynes Electric Company
14 Walnut Street
HAMILTON, Ontario
(416) 528-7967 Mr. G. Rulff

Red-D-Arc Ltd.
530 Parkdale Avenue N.
HAMILTON, Ontario
(416) 549-2423 Mr. Dan Rezner

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(519) 578-2230 Mr. A. Meyer

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LEASIDE, TORONTO 17, Ontario
(416) 421-2600 Mr. H.F. Sexton

Joliffe Seaton Electric Company
384 Horton Street
LONDON, Ontario
(519) 432-7191 Mr. Dave Seaton

Magneto Electric Service Company, Ltd.
1150 Eglinton Avenue, East
MISSISSAUGA, Ontario
(416) 625-9450

Orser Electric Limited
301 Forest Avenue
ORILLIA, Ontario
(705) 326-6427 Mr. Bundy

E.M.S. Electrical Limited
1120 Morrison Drive
OTTAWA, Ontario
(613) 684-6597 Mr. C. Blasioli

Moham Electric Ltd.
949 B Gladstone Avenue
OTTAWA, Ontario
(613) 729-1439

Westinghouse Canada Limited
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(416) 682-8336-7 Mr. Tony Arghittu

Blenkhorn and Sawle Limited
Grantham Avenue
ST. CATHARINES, Ontario
(416) 684-9251 Mr. George Harrison

Delta Electric Services
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SARINA, Ontario
(519) 337-5465 Mr. William Kimball

Quality Electric
62 McNabb Street
SAULT SAINTE MARIE, Ontario
(705) 253-1061 Mr. Leo St. Jules

Red-D-Arc Limited
2113 La Salle Boulevard
SUDBURY, Ontario
(705) 566-8660 Mr. M.W. Armstrong

Mahon Electric Company, Ltd.
340 N. Waterloo Street
THUNDER BAY, Ontario
(807) 623-8471 Mr. T. Chocla

Ainesworth Electric Company, Ltd.
131 Bermondsey Road
TORONTO, Ontario
(416) 751-4420 Mr. F.J. Patterson

Arc Rental Service
9 Taymall Avenue
TORONTO, Ontario
(416) 251-2222 Mr. George Childs

Moncur Electric Motors Limited
333 Eugenia Street
WINDSOR, Ontario
(519) 696-9600 Mr. W. Moncur

QUEBEC

CBL Contracteur Boulianne LTEE
275 Deschesnes
ARVIDA, Quebec
(418) 548-3134

Red-D-Arc Limited
141 De La Barre
BOUCHERVILLE, Quebec
(514) 641-0554 Mr. M. Imielinski

Bedard-Girard, Ltd.
375 Liege West
MONTREAL 1, Quebec
(514) 382-3025 Mr. Y. Richard

H. Roberge Incorporated
1505 Provincial
DUBERGER, Quebec
(418) 687-0550

Atelier Wood, Inc.
360 Marquette Avenue
SEPT. ILES, Quebec
(418) 962-6131 Mr. M. McDonald

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Electric Motor Service, Ltd.
1234 Scarth Street
REGINA, Saskatchewan
(306) 525-5464 Mr. A.J. Wilkie

Industrial Motor (Electric) Services Ltd.
417-42 A Street
SASKATOON, Saskatchewan
(306) 652-7335 Mr. R.A. Mitchell

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OPERATING INSTRUCTIONS

Save This Package!

IMPORTANT: All replacement parts must be ordered by correct item number and part name as listed in the Operating Manual Inside. - - SAVE IT!

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The air cooled engine driven

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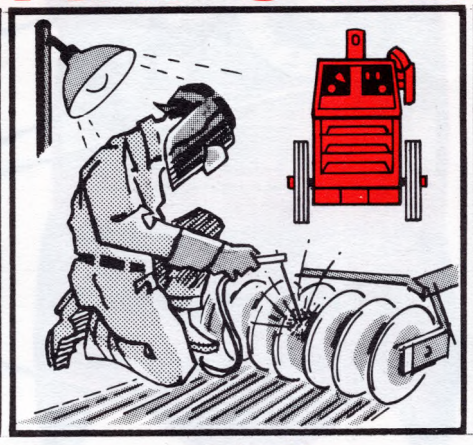
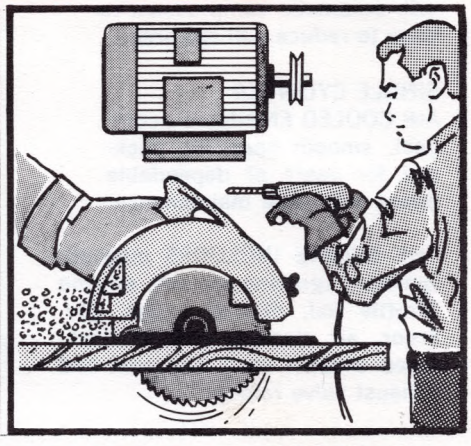




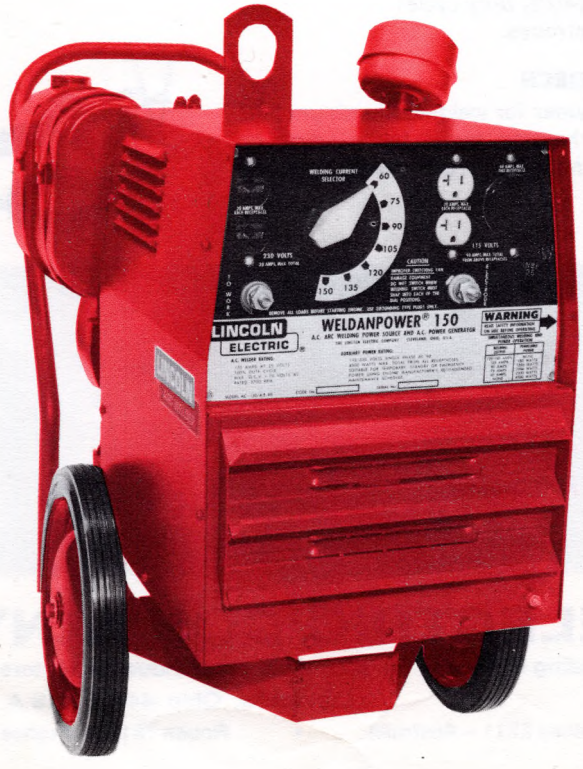
The time to purchase standby emergency power... before the next power outage or storm.

A 4500 Watt AC Generator . . . for auxiliary and emergency power. The 115/230 volt 60 hertz output can light 45 100-watt bulbs or drive a 1½ HP motor provided it is not started under load.

Recommended for contractors, farmers, inside and outside factory maintenance, sign erectors, well drillers, utility companies, dredging operations, cemeteries, camps, parks, marinas, mines and quarries, or portable service operations.

An AC Variable Voltage Arc Welding Power Source . . . for field welding. The machine capacity provides enough amperage for 5/32" Fleetweld® 35 and 180, 1/8" Fleetweld 37 and 57 and 1/8" Stainweld® 308-16 electrodes.

TIG Welding . . . draw 150 amps when used with optional K-799 Hi-Freq™. (See Optional Features.)



PORTABILITY

A compact machine, it fits into the corner of a pickup truck. This portability makes the Weldanpower 150 ideal for anyone needing temporary electric power or a welder where stringing power lines is impractical.

VERSATILITY

While it pays for itself as an auxiliary power generator operating tools and lights, the Weldanpower is always ready to power pumps, freezers, furnaces, or other critical equipment during a power failure. And it serves as a portable welder for repairs or field installation welding work.

Simultaneous welding and auxiliary power loads are permissible. Refer to the following table:

Welding Output	Permissible Auxiliary Power Loads[1]		
	Watts	Amps @ 115V	Amps @ 230V
120-150 amps	None	0	0
105 amps	180	1.5	.75
90 amps	1350	12	6
75 amps	1900	17	8.5
60 amps	2500	22	11
None	4500	40	20

LOW COST

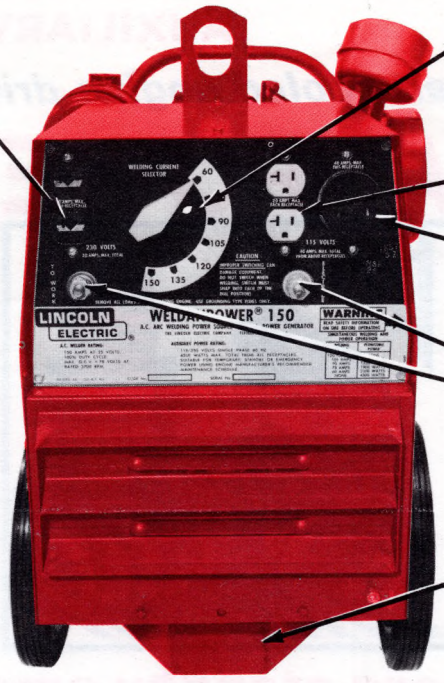
Compare the Weldanpower to other single purpose auxiliary and emergency power generators of comparable size. Costs are similar. But Weldanpower's welding capability gives you a machine of greater usability.

230 VOLT DUPLEX RECEPTACLE capacity 20 amps maximum from a single receptacle, 20 amps maximum from both.

QUICK, EASY MANUAL START with automatic compression release to reduce pull required.

SINGLE CYLINDER AIR COOLED ENGINE is a compact, smooth operating package for years of dependable power with little maintenance.

THE ENGINE INCLUDES magneto ignition, ignition switch, engine throttle rod, manual choke, governor, air cleaner, and Stellite*-faced exhaust valve and seat and exhaust valve rotator.



SEVEN POSITION SELECTOR SWITCH for quick welding heat adjustment. Each tap rated 100% duty cycle.

115-VOLT DUPLEX RECEPTACLE capacity 20 amps each receptacle; total 40 amps for both.†

115 VOLT SINGLE RECEPTACLE capacity 40 amps. Permits drawing the full 4500 watts from one plug.

OUTPUT STUDS for welding cables.

OPTIONAL K-759 UNDERCARRIAGE for on-site mobility.

†If drawing more than 15 amps a male plug rated specifically for 20 amps must be used.

*Stellite is a registered trademark of the Cabot Corp

SPECIFICATIONS

	Kohler	Briggs & Stratton
Type No.	K-1282-115/230	K-1287-115/230
Model No.	AC-150/4.5-AS	AC-150/4.5-AS
Power Generator Output — AC[1]		
Watts	4500	
Volts	115/230	
Hertz/Phase	60/1	
	Suitable for temporary, standby or emergency power using engine manufacturer's recommended maintenance schedule.	
Welder Output		
Rated Current @ 25 Arc Volts		
Current Range-Amps	60-150	
Duty Cycle	All Settings 100%	
Engine—Air Cooled	Cast Iron Block	Aluminum Block
Model	K-241-P	252416
No. of Cylinders	1	
Cycle	4	
Bore & Stroke	3¼ x 2⅞	3 7/16 x 2⅝
Horse Power	10 @ 3600 RPM	11 @ 3600 RPM
Gasoline Capacity	1.5 Gal.	
Lubrication	Splash type	
Lube Oil Capacity	2 Quarts	3 Pints
Operating Speeds-RPM		
Full load	3500	3500
High idle	3700	3650
Low idle	1500	1500
Net Weights		
Manual start	312 lbs.	256 lbs.
Electric start	364 lbs.	(Not available with electric start)
Dimensions-(H x W x D) (in.)		
Manual start	23.66x19.68x29.72	23.66x20.31x30.88
Electric start	23.66x19.68x36.65	—

[1] Output rating in watts, equivalent to volt-amperes at unity power factor. Output voltage within ±10% at all loads up to rated capacity.

OPTIONS

Electric Start unit (Kohler engine only) is equipped with a starter pushbutton and ammeter (for battery charging circuit) located on the rear control panel.

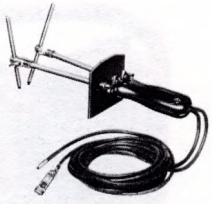
K-759 UNDERCARRIAGE
(Hand mobility only)
12" diameter, semi-pneumatic tires. Overall width 20".

K-758 ACCESSORY SET
Includes headshield with filter and cover plates, electrode holder, work clamp, 20' electrode cable, 15' work cable (40% duty cycle) and sample electrodes.

L-2645 ARC TORCH
Use with any welder for welding aluminum and copper alloys; heating metal for bending or straightening; removing rusty nuts; brazing and soldering.

Power Plug Kit
An auxiliary power plug kit is available factory installed. (Provides plug for each receptacle.) Specify K-802-G.

K-799 Hi-Freq
High frequency unit with gas valve for TIG welding. Rated 250 amps.



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